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ABSTRACT

In an effort to develop non-biased assessment techniques for the native languages of native Canadians, and to facilitate identification and intervention for language disorders among native children, the ratings of children's Inuktitut language samples by an untrained Inuit teacher were compared with length complexity data derived by linguistic analysis of the same samples. The language samples were taken of 16 Inuit children between the ages of 5 and 12.6 years. The results indicated that the teacher was able to rank the language samples according to language level as effectively as the linguistic analysis could, suggesting that experienced native teachers with no specific training can be valuable adjuncts to professionals in assessing minority-language children. (MSE)

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EVALUATION OF MINORITY-LANGUAGE CHILDREN BY NATIVE SPEAKERS

by

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PROLOGUE

Nonbiased assessment of minority language children is an area of crucial concern for monolingual speech and language pathologists. It is an area in which we are still seeking to untangle a set of procedures which will give us the information we need to properly diagnose the existence and nature of language disorders in native Canadians and Native Americans.

Assessment of a minority-language child's skills in his native language (L_1) has significant implications for diagnosis; treatment and research among the population of language-impaired children. Legislation in certain American states requires that a child have a problem in his native language (L_1) in order to qualify for speech and language intervention. Comparisons of L_1 and L_2 are likewise important as educational indices. As Manuela Juarez stated:

For monolingual minority language speakers and for those minority children for whom English is the second language, a diagnosis of language disorder or delay would be viable only in the first or stronger language.

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However, assessment in most of the minority languages used in North America is severely restricted by a lack of suitable procedures, normative data and trained personnel.

DESIGN

To meet the challenge of nonbiased assessment in L_1 , we, in Arctic Quebec, decided to see if a native teacher could accurately

rate Inuit children's language. To do this we correlated this untrained Inuit teacher's ratings of children's Inuktitut language samples with length complexity data derived by linguistic analysis of the same samples.

METHOD

Language samples were taken of 16 Inuit children between the ages of 5 and 12.6 years. These samples were tape recorded by each child's native Inuktitut speaking teacher. The teachers elicited the samples in schools in the course of naturalistic play or conversations with the child.

The samples were transcribed by a native Inuktitut speaker (who incidentally is blind) into syllabics (native written language system) and roman orthography (our written language system). The samples were read and rated by Betsy Anahatak. Betsy is an Inuit teacher with ten years of experience. She has not completed secondary school, but holds a Certificate in Northern Education. As part of her studies for this certificate she took one course in Normal Language Development. In this course she learned to elicit language samples, but had no instruction in rating language samples.

Betsy felt more comfortable describing the samples in words than in assigning a number rating. Her verbal statements such as "weak", "very strong", were converted by 3 independent people into numerical scores on a 1-5 continuum, with 1 representing a low score and 5 a high score. The three people agreed 100% of the time on what number to assign to Betsy's verbal ratings. It took Betsy approximately 1 week to read and rate the 16 samples.

Independently the samples were read and analyzed by a linguist specializing in Inuktitut. This took 2 months. Inuktitut is the native language of the Inuit of Northern Quebec. It is a polysynthetic language in which words, phrases and sentences are constructed by adding a variety of affixes to a root.

To take a simple example one could say:

R		A		R		A
tuktu	/	mik		taku	/	vunga
caribou		object marker		see		1st person singular

Meaning I see a caribou

Tuktu and taku are the roots on which the affixes mik and vunga are added. The entire statement is described as an expression. Each of the two subsections are called clusters. The two parts of the clusters marked by a slash are chunks.

In this next more complicated example you can see that an expression might have several clusters and a cluster might have numerous chunks. The underlined segments are roots. In the whole expression there are 5 clusters. In the second cluster there are 6 chunks.

Nutaqallu ilinniaqtitaujariaqaput
uqalimaarunaqsititaulutiglu
titirarunnaqsititaulutiglu
uqasirjamingnik

The linguist's analysis of the samples yielded 5 length-complexity variables.

Language Variables

Variables	Mean	S.D.
1. Clusters Ratio (Clusters/Expression)	2.6	1.6(MLU)
2. Longest Expression in Clusters	7.8	4.9
3. Longest Cluster in Chunks	5.8	1.1
4. Affix/Root Ratio	1.28	.54
5. Different Affix/Root Ratio	.89	.40 (TTR)

These language variables of length and complexity were correlated with the native speaker's ratings and with age.

Variable	Mean	S.D.	Range
Age	91.94 months (7.8 years)	28.71	60-150 months (5 - 12.6 years)
Rating	3.1	1.5	1 - 5
Expression	3.0		

DATA ANALYSIS AND RESULTS

Analysis of the data gave us the following information.

- Several intercorrelations of the language variables were apparent. In other words the language variables we selected had an internal coherence. The variable that was not significantly correlated was longest expression when matched with the two affix-root ratios and with the longest cluster in chunks.

2. The ratings assigned by the native teacher showed significant correlation to all five of the length and grammatical complexity variables. (See page 7.)
3. The ratings were not significantly correlated with age. We split the subjects into four groups. The young group had 7 members aged 5 - 6.1. The older group had 9 members aged 7 - 12.6 years. The high rating group had 10 members rated between 3 - 5. The low rating group had 6 members rated 1 - 2. The chart demonstrates how the ratings represented a separate classification than age. (See page 8) In the young group 6 of the 7 children were rated high. In the older group half of the children were rated high and the other half low. If the teacher had rated according to age all the young group would have had low ratings and all the older group would have had high ratings.
4. We used a multiple stepwise regression of the split groups to allow us to see what variables the teacher based her ratings on. When subjects were ungrouped for age the variable Clusters/Expression accounted for 54% of the variance of the rating. However, when the subjects were grouped by age the teacher's basis for rating the young children differed from her basis for rating the older children. The variable that best predicted the rating in the young group was longest expression. For the older group the variable that best predicted the rating was Affix/Root ratio. This means that the factor the teacher paid most attention to varied with age. With the kindergartners and Grade 1 children a high rating went to children who had long utterances. For children Grade 2 and above a high rating was given for those with linguistic complexity in vocabulary and morphology. (See page 9)

IMPLICATIONS

This study, then, shows that an Inuit teacher with no formal academic training in language development was able to rank school-aged children's language samples according to language level as indicated by certain linguistic variables. Our results show that to the same degree that measures of length and grammatical complexity (such as MLU and TTR) can be used to evaluate a child's language, so can this untrained Inuit teacher's ratings be used to evaluate a child's language. The implication is that experienced native teachers with no specific training have the potential to be valuable and useful adjuncts to professionals in assessing minority-language children. We would like to go one step further and say that the use and training of native personnel (be they teachers or health care workers) in the area of language assessment would appear to make a significant and crucial contribution to our ability to provide nonbiased assessments of native children.

PEARSON CORRELATION COEFFICIENTS
RATING WITH LANGUAGE VARIABLE

CLUSTER/EXPRESSION RATIO	.73 **
LONGEST CLUSTER	.62 *
DIFFERENT AFFIX/ROOT RATIO	.61 *
LONGEST EXPRESSION CHUNKS	.58 *
AFFIX/ROOT RATIO	.54 *

p .001 **

p .01 *

SUBJECT GROUPING

	LOW (1 OR 2)	HIGH (3 - 5)	
YOUNG (5 - 6.1 YRS)	1	6	7
OLD (7.1 - 12.6 YRS)	5	4	9
	6	10	

MULTIPLE STEPWISE REGRESSION

		RATING VARIANCE
UNGROUPED	CLUSTERS/EXPRESSION	54% *
YOUNG	LONGEST EXPRESSION	87% *
OLD	AFFIX/ROOT RATIO	77% *

* p .01